



# DayInDayOut

WELCOA'S ONLINE BULLETIN FOR YOUR LIFESTYLE

## Ignore The Pain?

### *Innovative Pain Management Ideas*

Two people fall and suffer seemingly similar injuries. Six months later, one has completely recovered but the other still has debilitating pain. How can different people seem to experience pain so differently? Through carefully controlled experiments using advanced brain imaging techniques, researchers are discovering that people's brains can process the same pain signals from their bodies very differently. These insights are leading to surprising new strategies for controlling pain.

### What The Science Is Saying

Dr. Robert Coghill of Wake Forest University explained that there are significant differences in the way people experience pain. When people had the same level of heat applied to the backs of their legs, Coghill recounted, the intensity of pain they reported was “all over the place”—from someone who said it didn't hurt at all to someone who said the pain was so intense they almost withdrew from the study.

Coghill's team wanted to see whether these ratings represent a true difference in the way people experience pain or differences in how they explain what they feel. To answer this, they examined the brain activity of their subjects using an MRI (magnetic resonance imaging) machine while they applied different levels of heat. They found that those who reported feeling more pain had stronger and more frequent activation in a number of brain areas, particularly a region called the primary somatosensory cortex.

These people were all getting a generally similar input delivered to their brains, but once the signal got into their brains, it seemed to be processed differently in different people. To see if they could manipulate that processing, the researchers trained people to associate different levels of painful stimulus with different tones. They then tested the impact of expectation by signaling a moderately painful stimulus but then delivering an intensely painful one.

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“When we look at their pain intensity ratings, they decrease significantly,” Coghill said. “The bigger the expectation people had that the pain was going to go down, the more the pain in fact went down. Changes in expectation accounted for 88% of the variability in the pain people said they felt.”

What’s the possibility that the subjects were only telling researchers what they thought they wanted to hear? MRI showed that their brain activation matched what they were saying they felt.

“These people really were experiencing less pain than they would normally when they were correctly expecting the stimulus,” Coghill said. Expectation has a widespread impact on how the brain processes pain.

“The final word is always look on the bright side of life,” Dr. Coghill concluded. “Try to think positively. That can really change the way you experience pain.”

## HELP YOUR DOCTOR TREAT YOUR PAIN

Doctors can prescribe several different medications and treatments for pain relief. To help them figure out how best to help you manage your pain, be prepared to talk about the following (a family member or caregiver can help someone with a communication or thinking impairment):

- **Pain.** Describe the pain-when it started, how long it lasts and whether it’s worse during certain times of the day or night.
- **Location.** Show exactly where the pain is on your body or on a drawing of a body.
- **Intensity or severity.** How bad is the pain?
- **Other factors.** What, if anything, increases or decreases the pain?
- **Personal response to pain.** Fear, confusion or hopelessness about the causes of pain can affect how you respond to and describe pain. Don’t be shy talking about things that are bothering you. Let your doctor know what you’re going through.
- **Goals for pain control.** How much pain are you willing to put up with?
- **Other signs of pain.** Family, friends and caregivers may note behaviors that signal pain, too.

